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=> s organophospha?(w)acid(w)anhydrase

          2583 ORGANOPHOSPHA?
        939449 ACID

          3332 ANHYDRASE
L8           5 ORGANOPHOSPHA?(W)ACID(W)ANHYDRASE

=> d 1-5 ti au py so an ab
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L8 ANSWER 1 OF 5
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TI Identification and comparison of the organophosphate acid anhydrase activities of the clam, Rangia cuneata
AU Landis, Wayne G.; Chester, Nancy A.; Anderson, Robert S.
PY 1989
SO Comp. Biochem. Physiol., C: Comp. Pharmacol. Toxicol., 94C(2), 365-71
AN CA113(11):95019b
AB Tissue exts. of the commonly found brackish water clam R. cuneata degraded the potent neurotoxin diisopropylfluorophosphate (DFP) and, surprisingly, N,N'-diisopropylphosphorodiamidofuoridate (mipafox). Results indicate 2 groups of mol. wt.-ests. for substrate-specific enzymes within the digestive gland of R. cuneata. When DFP was a substrate, a protein in the range of 30,500-21,300 daltons was identified as organophosphate acid (OPA) anhydrase. With mipafox as substrate, an OPA anhydrase ranging in wt. 105,000-138,300 daltons was identified. Apparently, .gtoreq.2 forms of active OPA anhydrase-type proteins are active within R. cuneata. Suggestions as to the natural role of the OPA anhydrases and the implications in predicting environmental toxicity and in hazardous waste site clean up are discussed.

L8 ANSWER 2 OF 5
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TI The organophosphate acid anhydrases of the protozoan, Tetrahymena thermophila, and the clam, Rangia cuneata
AU Landis, Wayne G.; Anderson, Robert S.; Chester, Nancy A.; Durst, H. Dupont; Haley, Mark V.; Johnson, Dennis W.; Tauber, Renee M.
PY 1989

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d his
(FILE 'USPAT' ENTERED AT 11:36:34 ON 16 APR 91)
                SET PAGELENGTH SCROLL
L1             8 S BACULOVIRUS AND POLYHEDRIN
=> d 1-8
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1. 5,008,373, Apr. 16, 1991, Fusion proteins and particles; Alan J. Kingsman, et al., 530/350; 435/69.7, 91, 170, 171, 172.3, 233, 240.2, 252.3, 254, 257, 258, 320.1; 530/351, 412; 536/27; 935/10, 12, 22, 59, 66 [IMAGE AVAILABLE]

2. 5,004,687, Apr. 2, 1991, Insect virus vector with broadened host range; Lois K. Miller, 435/69.1, 235.1, 320.1; 935/32, 36, 57, 70 [IMAGE AVAILABLE]

3. 5,002,887, Mar. 26, 1991, Truncated thrombolytic proteins; Glenn R. Larsen, 435/212; 424/94.63, 94.64; 435/172.3, 215, 217, 226; 536/27; 935/10, 14

4. 4,973,667, Nov. 27, 1990, Baculovirus proteins and viral pesticides containing same; Robert R. Granados, 530/350; 424/89; 514/21 [IMAGE AVAILABLE]

5. 4,971,793, Nov. 20, 1990, Subunit canine parvovirus vaccine; Harry A. Wood, et al., 424/88, 89 [IMAGE AVAILABLE]

6. 4,879,236, Nov. 7, 1989, Method for producing a recombinant baculovirus expression vector; Gale E. Smith, et al., 435/320.1, 172.1, 172.3; 935/32, 57 [IMAGE AVAILABLE]

7. 4,870,023, Sep. 26, 1989, Recombinant baculovirus occlusion bodies in vaccines and biological insecticides; Malcolm J. Fraser, et al., 435/235.1, 69.3, 69.7, 91, 172.3, 243, 320.1; 530/350, 820, 826; 536/27; 930/10, 220; 935/32, 57, 70

8. 4,745,051, May 17, 1988, Method for producing a recombinant baculovirus expression vector; Gale E. Smith, et al., 435/69.51, 69.1, 91, 172.1, 172.3, 243, 320.1; 536/27; 930/220; 935/32, 57, 70

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W.; Tauber, Renee M.; Durst, H. Dupont
PY 1989
SO Comp. Biochem. Physiol., C: Comp. Pharmacol. Toxicol., 92C(2), 211-16
AN CA111(3):19963y
AB 4-Nitrophenyl ethyl(phenyl)phosphinate (NPEPP) is hydrolyzed by the organophosphate acid (opa) anhydrases corresponding to the Tetrahymena activities DFPase-1 and DFPase-2; and the Mazur-type opa anhydrase from hog kidney. Mipafox was very slowly hydrolyzed by the partially purified exts. of the T. thermophila opa anhydrases. The DFF hydrolyzing activities, DFPase-1, DFPase-2, and DFPase-3, were strongly but reversibly inhibited by Mipafox. In regard to the hydrolysis of NPEPP and the effect of Mipafox, the Tetrahymena opa anhydrases examd. here more closely resemble the Mazur-type opa anhydrases.

L8 ANSWER 5 OF 5
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TI Activity of organophosphate acid anhydrase in Rangia cuneata
AU Chester, N. A.; Landis, W. G.
PY 1988
SO Report, CRDEC-TR-88045; Order No. AD-A188864, 14 pp. Avail. NTIS From: Gov. Rep. Announce. Index (U. S.) 1988, 88(11), Abstr. No. 828,203
AN CA109(25):227005y
AB Enzymes capable of hydrolyzing diisopropyl fluorophosphate (DFP) and related acetylcholinesterase inhibitors have been reported in the tissues of many animals and have recently been renamed as organophosphate acid (opa) anhydrases. Purified clam digestive gland was used to test individually substrate solns. of DFP and Mipafox for opa anhydrase activity. Three groups of mol. wt. ests. for substrate-specific enzymes within R. cuneata were indicated. The data suggest multiple enzymes within R. cuneata that are strictly characterized according to substrate specificity and mol. wt.

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Landis, Wayne G.; Anderson, Robert S.; Chester, Nancy A.; Durst, H. Dupont; Haley, Mark V.; Johnson, Dennis W.; Tauber, Renee M.
PY 1989

SO ASTM Spec. Tech. Publ., 1027(Aquat. Toxicol. Hazard Assess.: 12th Vol.), 74-81
AN CA113(9):73458s
AB Organophosphate acid anhydrases (OPA anhydrases) or DFPases are a diverse and widespread group of enzymes that are able to hydrolyze the potent organophosphate acetylcholinesterase inhibitors, diisopropyl phosphofluoridate (DFP) and 1,2,2-trimethylpropylmethylphosphonofluoridate (soman). Five enzymic activities were identified in the ubiquitous freshwater protozoan, T. thermophilia. In some cases the activities shared characteristics of both the squid-type and Mazur-type DFPases. A chromogenic substrate related to parathion, 4-nitrophenylethylphenyl(phenyl)phosphinate (NPEPP), was hydrolyzed by Tetrahymena DFPase-1 and DFPase-2 and by the Mazur-type DFPase from hog kidney. The close DFP analog, N,N'-diisopropyldiamidofluoridate (Mipafox) was a potent inhibitor of the Tetrahymena DFPases. OPA anhydrase activities were also found in the clam, R. cuneata. Three groups of activity could be identified at mol. wts. of 20,000-30,000, 45,000-50,000, and 70,000-100,000. The higher-mol.-wt. activity resembled a Mazur-type DFPase in that it hydrolyzed soman faster than DFP, was Mn2+ stimulated, and hydrolyzed NPEPP. The lower-mol.-wt. activity was in the range of the squid-type DFPase. An enzymic activity that hydrolyzed Mipafox was apparent at a mol. wt. of 130,000. A hypothesis is presented that the wide variety of OPA anhydrases is in part due to the need for the metab. of a wide variety of naturally occurring organophosphates and halogenated orgs.

L8 ANSWER 3 OF 5
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TI The organophosphate acid anhydrases of the protozoan, Tetrahymena thermophila, and the clam, Rangia cuneata, and the role of eucaryotes in strategies of biological detoxification
AU Landis, Wayne G.; Chester, Nancy A.; Durst, H. Dupont; Haley, Mark V.; Johnson, Dennis W.; Tauber, Renee M.; Anderson, Robert S.; Harper, Bruce C.
PY 1989
SO Int. Conf. Physiochemical Biol. Detoxif. Hazard. Wastes, Meeting Date 1988, Volume 2, 645-55. Edited by: Wu, Yeun C. Technomic: Lancaster, Pa.
AN CA112(21):193455q
AB Organophosphate acid anhydrase activities from T. thermophila and R. cuneata both hydrolyze soman faster than DFP and are stimulated by Mn2+. The Km, Vmax, and temp. and pH ranges of the activities are close. The major difference was the lack of inhibition of Mipafox on the activity of the clam. Several organophosphate acid anhydrase activities were found for each organism. The natural role of the enzyme in organism survival is discussed.

L8 ANSWER 4 OF 5
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TI Alternative substrates and an inhibitor of the organophosphate acid anhydrase activities of the protozoan, Tetrahymena thermophila
AU Landis, Wayne G.; Chester, Nancy A.; Haley, Mark V.; Johnson, Dennis

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